

# **GWH UPGRADE KATOOMBA TO BLACKHEATH**

## **COMPARISON**

### **CURRENT DOT PROPOSAL**

**7 KM DUAL CARRIAGEWAY ROAD KATOOMBA TO BLACKHEATH  
PLUS**

**11 KM TUNNEL BLACKHEATH TO LITTLE HARTLEY**

**and**

### **AUSTRALIAN INFRASTRUCTURE SOLUTIONS PROPOSAL**

**19 KM TUNNEL KATOOMBA TO LITTLE HARTLEY**

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# 1. Extract: DOT — Medlow Bath Upgrade Review of Environmental Factors

Community Update | July 2021

Extract REF Page 5:

*“Surface upgrade or tunnel?”*

*In Medlow Bath, we can upgrade the surface road through town, provide a clear buffer between the road and pedestrians, and improve safety for motorists, active transport users and pedestrians with the shared pathway and pedestrian bridge, all with minimal environmental and property impacts.*

*The impact and cost of tunnelling under Medlow Bath would far outweigh any benefits that a tunnel may provide.”*

## 2. Comparison of capital costs — NSW Government and AIS proposal for 19km tunnel

Dual carriageway Katoomba to Blackheath vs 19km twin tunnels Blackheath to Little Hartley

NSW Government proposal		Australian Infrastructure Solutions proposal	
Dual carriageway Katoomba to Blackheath	\$1.5bn	\$4.2bn	
11km twin tunnels Blackheath to Little Hartley	\$2.4bn	19km twin tunnels Blackheath to Little Hartley	
Access and safety works; Medlow Bath, Blackheath, Mt Victoria	PC allowance <u>\$0.5bn</u>	Access and safety works; Medlow Bath, Blackheath, Mt Victoria	PC allowance <u>\$0.5bn</u>
Total	\$4.4bn	Total	\$4.7bn

### Notes

1. Road, bridge and tunnel construction costs based on latest similar project information plus rates published by Bureau of Transport and Regional Economics, Road construction cost and infrastructure procurement benchmarking, Australian Government March 2018.
2. Concept design for Dual carriageway from Katoomba to Blackheath based on Great Western Highway Upgrade Program, Overview and strategic corridor, NSW Government November 2019.
3. Dual carriageway Katoomba to Blackheath cost estimate includes allowance for bio-retention systems to minimise pollution from dual carriageway stormwater runoff to Cascade Creek, Medlow Lake and Greaves Creek town water supply reservoirs.

### 3. Level Of Service, Proposed dual carriage surface road through Medlow Bath

REF extract *“In Medlow Bath, we can upgrade the surface road through town, provide a clear buffer between the road and pedestrians, and improve safety for motorists, active transport users”*

#### 1. Bottleneck

A 60km/h speed limit with access roads, traffic lights will cause extensive traffic delays at Medlow Bath resulting will result in a maximum capacity of 18,000 to 30,000 vehicle per day **not** 50,000 vehicles per day as stated in the DoT document.

**Result: There will be a traffic bottleneck at Medlow Bath**

#### 2. Level of service (LOS)

The Ausroads Guide to traffic management 2020 definition of a LOS Level F is as follows:

*“LOS Level F describes unstable flow. Such conditions exist within queues forming behind bottlenecks. Breakdowns occur for a number of reasons as follows: –traffic incidents can temporarily reduce the capacity of a short segment, so that the number of vehicles arriving at a point is greater than the number of vehicles that can move through it–points of recurring congestion, such as merge or weaving segments and lane drops, experience very high demand in which the number of vehicles arriving is greater than the number of vehicles that can be discharged”*

The traffic conditions at Medlow Bath will consist of unstable flow.

**Result: The proposed road will have a LOS of F. (F is the lowest LOS)**

#### 3. Safety

This particular section of surface road, from Katoomba to Blackheath, is one of the worst stretches of road in NSW for driving hazards:

- Fog driving hazard, on average 95 days per year. (Bureau of Meteorology records) This is extremely high.
- The existing road experiences black ice hazards. Estimate,10 days/year (estimate from Bureau of Meteorology records)
- The area has now been upgraded by the Rural Fire Service as one which can expect a bush fire hazard very 6 years

**Result: Forcing 50,000 vehicles per day to use this road will significantly result in unsafe driving conditions**

## 4. Comments on DOT REF July 2021 — Additional cost of tunnel vs Benefits of tunnel

### 1. Savings claimed by DOT

The Government REF document states

*“The impact and cost of tunnelling under Medlow Bath would far outweigh any benefits that a tunnel may provide”*

### 2. Additional cost of tunnel

7km twin tunnels vs 7 km surface dual carriageway

**\$300m**

### 3. Saving in travel time using tunnel

#### 3.1 Due surface road driving hazards

Fog 95 day per year (Bureau of Meteorology records)

Ice 10 days per year

#### 3.2 Due speed limits

Proposed speed limit of surface road	60 kph
Proposed speed limit of tunnel	80 kph

### 4. Tunnel benefits

Addition travel time due 3.1 & 3.2

112 million hours<sup>1</sup>

Benefits by using tunnel over 25 years<sup>2</sup>

**\$3,100m**

<sup>1</sup>Travel time savings only (does not include cost associated with environmental damage, reduced safety, loss of amenity etc)

<sup>2</sup>Assessment over 25 years complies with DOT and Bureau of Infrastructure and Transport Research Economics (BITRE) standard

## 5. Comparison of project features— NSW Government and AIS tunnel proposal

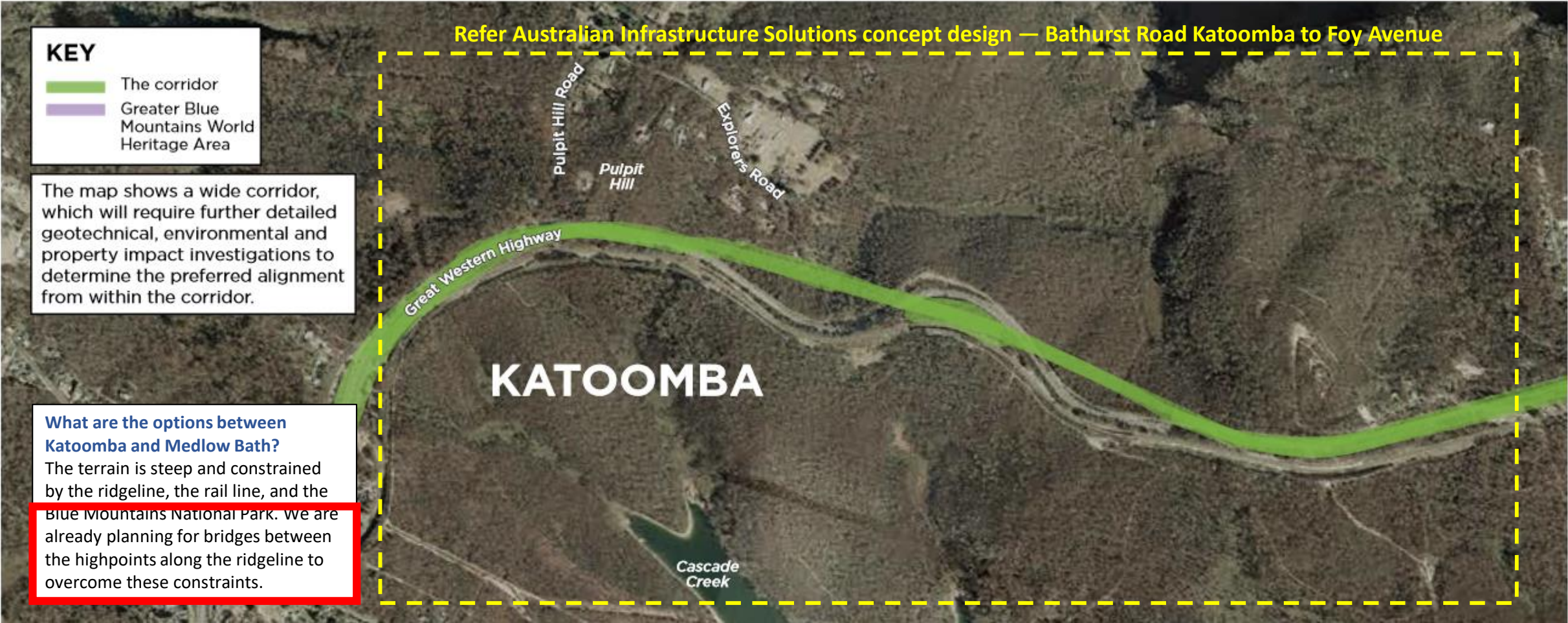
NSW Government proposal		Australian Infrastructure Solutions proposal	
<b>Construction</b>		<b>Construction</b>	
Construction time	7 years	Construction time	3.5 years
Disruption to traffic at Blackheath/Mt Victoria	7 years	Disruption to traffic at Blackheath/Mt Victoria	3.5 years
Disruption to traffic at Medlow Bath	Permanent	Disruption to traffic at Medlow Bath	3.5 years
Spoil removal	Trucks will use highway	Spoil removal	No trucks on highway
<b>Environment</b>		<b>Environment</b>	
Loss of National Park	20 Hectares	Loss of National Park	No loss
Noise of through trucks; Katoomba to Blackheath	Noise to remain permanently	Noise of through trucks; Katoomba to Blackheath	No noise from trucks
Loss of amenity	2 bridges (total length 1.3km)	Loss of amenity	No loss (no bridges)
<b>Heritage</b>		<b>Heritage</b>	
Historic explorers’ route Katoomba to Blackheath	Destroyed	Historic explorers’ route Katoomba to Blackheath	Untouched
Heritage features of Hydro Majestic	Removed	Heritage features of Hydro Majestic	Untouched
<b>Future driving conditions</b>		<b>Future driving conditions</b>	
Hazards	Busfires/Black ice	Hazards	None
<b>Value for money</b>		<b>Value for money</b>	
Benefit Cost Ratio	1.5	Benefit Cost Ratio	2.1



# 6. Strategic corridor between Katoomba and Mount Victoria, August 2020

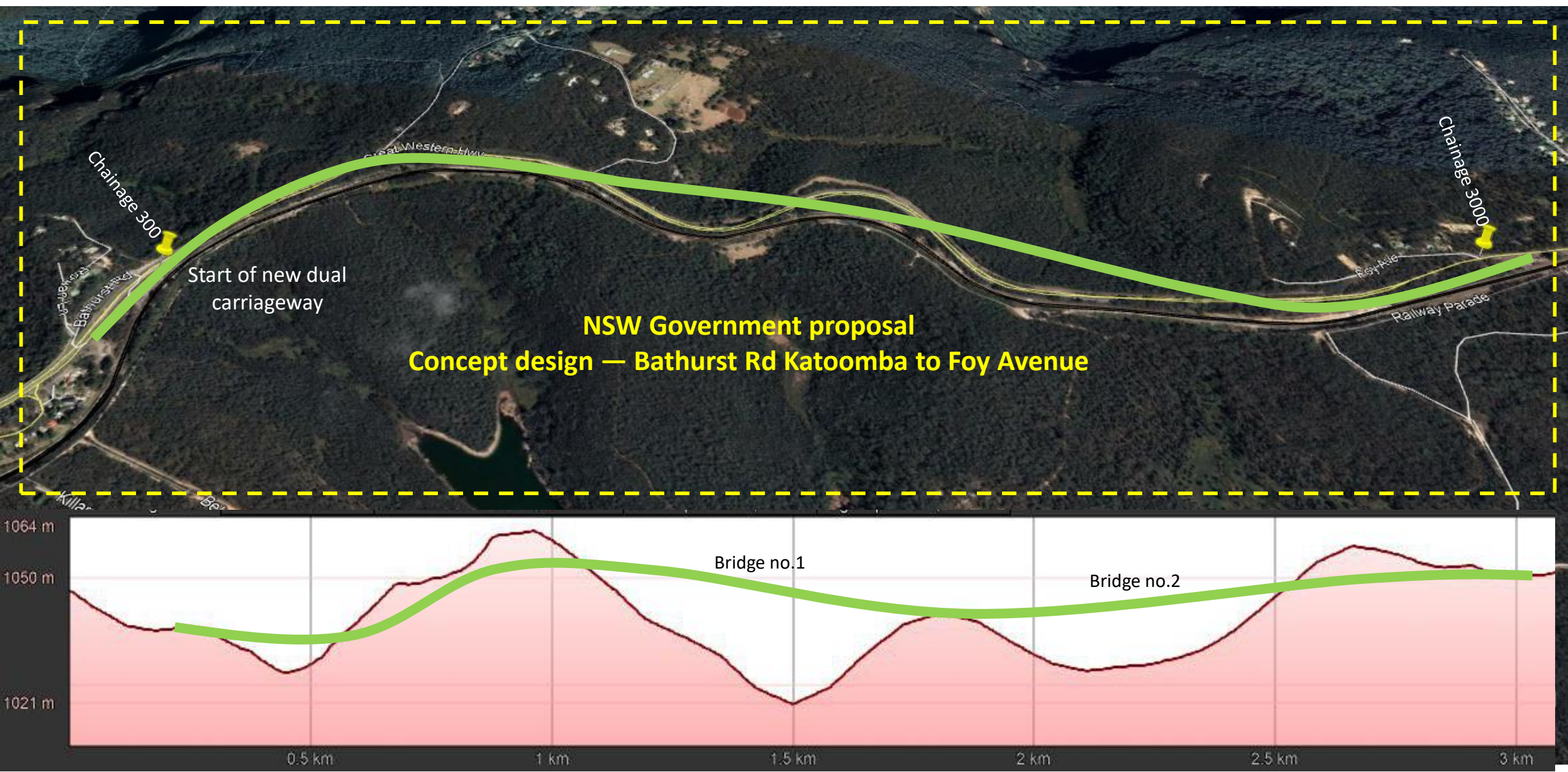
Extract — RMS Katoomba to Medlow Bath (alignment of dual carriageway proposed by Government)

## Strategic corridor between Katoomba and Mount Victoria





7. Dual carriageway — Concept design Katoomba to Foy Avenue Medlow Bath





# 8. Dual carriageway — Concept design Foy Avenue to Blackheath portals of proposed 11km tunnel

